UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,474	12/20/2005	Jeff Bennett	PHUS030200	8195

24737   7590   03/18/2008
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER
CHAMBERS, TANGELA T

ART UNIT	PAPER NUMBER
4141	

MAIL DATE	DELIVERY MODE
03/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/561,474	BENNETT, JEFF
	Examiner	Art Unit
	TANGELA T. CHAMBERS	4141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2005*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-17* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *20 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *December 20, 2005*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the preliminary amendment filed on 12/20/2005.

2.   Claims 1-17 are pending.

Priority

3.   If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C.

119(e), a specific reference to the prior-filed application in compliance with 37 CFR

1.78(a) must be included in the first sentence(s) of the specification following the title or

in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the

reference must include the relationship (i.e., continuation, divisional, or continuation-in-

part) of the applications.

        If the reference to the prior application was previously submitted within the time

period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or

an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference

was submitted in an oath or declaration or the application transmittal letter), and the

information concerning the benefit claim was recognized by the Office as shown by its

inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge

under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference

in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the

specification or an ADS. See MPEP § 201.11.

Information Disclosure Statement

4.   The IDS filed on December 20, 2005 has been acknowledged by the examiner.

Only the abstract of reference WO 9955028 A1 was considered by the examiner as the

remainder of the document is written in French.

Specification

5.   **The disclosure is objected to because of the following informalities:**

The abstract, line 5, recites the word "includes" which appears to be a misspelling of the word "include".

The abstract, line 5, recites "(a)" as a step and should be deleted as there are no additional steps labeled in the paragraph.

The abstract, line 7, the word "and" should be inserted before the word "applying".

The abstract, line 15, contains the acronym "WLAN" which should be spelled out with the acronym appearing in parenthesis.

The specification, page 1, line 20, the first occurrence of the acronym "WLAN" should be spelled out with the acronym appearing in parenthesis.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Appropriate corrections are required.

Claim Objections

6.   **The claims are objected to because of the following informalities:**

Claims 1 and 4-17 should have all references to drawing steps and/or numerals deleted from the claims.

Claim 1, page 7, recites the limitation "at least one slave device attached to one of a second bus and a third bus". As the claim states only one slave device must be attached to a bus, the word 'and' should be changed to 'or' on lines 13 and 17.

Claim 3, page 7, line 23 recites the limitation "the instantaneous change in cycle time". There is insufficient antecedent basis for the limitation in the claim.

Claim 5, page 8, line 7 contains the acronym "SBA" wherein the first occurrence of the acronym should be spelled out with the acronym appearing in parenthesis.

Claim 6, page 9, line 11 recites the limitation "the second bus". There is insufficient antecedent basis for the limitation in the claim.

Claim 8, page 9, line 16 recites the limitation "the instantaneous change in cycle time". There is insufficient antecedent basis for the limitation in the claim.

Claim 11, page 10, line 6 should have the word "to" inserted after the word "attached".

Claim 12, page 10, lines 20 and 21 contain the phrase "each of" which should be deleted as there is only one master device listed.

Claim 14, page 11, line 8 recites the limitation "the instantaneous change over a plurality of cycles". There is insufficient antecedent basis for the limitation in the claim. Appropriate corrections are required.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-17 are rejected under 35 U.S.C. 101 as the claimed invention is directed to non-statutory subject matter. Claims 1-17 are non-statutory because the invention as claimed synchronizes, transmits and receives messages without producing a useful, concrete and tangible result. The invention is therefore not eligible for patent protection.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aiello et al (Aiello) (US Patent Publication No. 2002/0018458 A1) in view of Straub et al (Straub) (US Patent No. 6,914,895 B1).

As per claim 1, Aiello discloses:

- ***synchronizing an internal time base of a wireless master device attached to a first bus by receiving a Software Beacon Alert that indicates a time of a subsequent transmission*** (Aiello, Page 3, Paragraph [0026] and Page 7, Paragraph [0073], "The master slot 60 contains a synchronizing beacon or "master sync". More preferably, the "master sync" is the same code as the "master sync code" as described earlier for clock synchronization unit 40. The command slot 62 contains protocol messages exchanged between the transceiver devices of the network. Generally, each of the data slots 64a through 64n provides data transmission time for a corresponding slave device 14a through 14n of the network 10.").

- ***applying the Software Beacon Alert to a first phase-lock loop circuit associated with the master device to create a filtered Software Beacon Alert,*** (Aiello, Page 3, Paragraph [0026], "As each master sync code is received, the phase or delayed locked loop mechanism is used to adjust the phase of the slave clock to that of the incoming data stream. By providing a common network clock on the master device, with slave devices synchronizing their local clocks to that of the master clock, support for synchronous and isochronous communication in additional to asynchronous communication is provided."), Aiello teaches applying the master sync – which contains a synchronizing beacon – to a phase lock loop mechanism associated with a master device.

- ***wherein said first phase-lock loop circuit uses a phase detector with an asymmetrical gain about zero error;*** (Aiello, Page 6, Paragraphs [0068]-[0070], "The phase offset detector 54 carries out the operation of ascertaining the phase delay between the expected zero-delay pulse location, and the actual position of the incoming pulses.").

- ***receiving a timing message transmitted from the master device on the first bus to a second phase-lock loop circuit associated with at least one slave device attached to one of a second bus and a third bus respectively of a plurality of buses; providing the timing message from the second phase-locked loop to said at least one slave device attached to said one of a second bus and a third bus*** (Aiello, FIG. 3b and Page 3, Paragraphs [0026], "The clock recovery function in the

slave devices on the network carries out the operation of recovering clock information from the incoming data stream and synchronizing the slave device to the master device using one or more correlators which identifies the master sync code and a phase or delayed locked loop mechanism."), Aiello teaches transmitting a timing message from a master device to a phase lock loop of a slave device.

- ***before the master device receives a subsequent Software Beacon Alert message, so that the wireless master device and the at least one slave device are synchronized.*** (Aiello, FIG. 4 and Page 3, Paragraph [0026] and Page 7, Paragraph [0073], "In operation, the clock master issues a "master sync code" once per frame in the "master slot"."), Aiello teaches that a master synch code containing a synchronizing beacon is transmitted once per frame before messages are exchanged with the slave devices connected to the network.

Aiello does not specifically disclose:

- ***A method for clock synchronization of a plurality of wireless devices that are in communication with respective nodes, wherein at least some of the respective nodes are attached to different buses*** However, Straub in an analogous art discloses the above limitation. (Straub, Abstract and Fig. 1, Column 3, Lines 41-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the method of Aiello to have a method of clock synchronization for nodes that are attached to different buses. The modification would be obvious because one of ordinary skill in the art would want to provide a means for synchronizing wireless devices in a communications network comprising multiple buses. (Straub, Abstract).

As per claim 2, the rejection of claim 1 is incorporated and further Aiello discloses:

- ***wherein the timing message received is error checked.*** (Aiello, Page 6, Paragraph [0066], "If the incoming pulse stream matches the master sync code

searched for, the correlator 50 signals a successful match. If the incoming pulse stream differs from the master sync code, the process is repeated.").

As per claim 3, the rejection of claim 2 is incorporated and further Straub discloses:
-       *wherein the instantaneous change in cycle time for the at least one slave device is limited to +/- one clock pulse per 1394 cycle.* (Straub, Column 7, Lines 8-38).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the method of Aiello to have the change in cycle time limited to +/- one clock pulse per 1394 cycle. The modification would be obvious because one of ordinary skill in the art would want to allow slave nodes to synchronize their clock to the master node and perform any necessary corrections in a timely manner. (Straub, Column 7, Lines 8-38).

As per claim 5, the rejection of claim 1 is incorporated and further Aiello discloses:
-       *determining whether the SBA is late or early by determining an output of the first phase lock loop circuit, wherein a constant value that is small relative to a predetermined value indicates that the SBA is late, whereas a relatively larger and proportional gain of the first phase lock loop circuit indicates that the SBA is early.* (Aiello, Page 6, Paragraphs [0065]-[0068], "As each predicted master sync code is detected at the slave transceivers, the phase lock mechanism 52 carries out the operation of determining the phase difference between the local slave clock 46 and the incoming pulses."), Aiello teaches a method of evaluating the output of the phase lock loop circuit.

Claim 6 is the system claim corresponding to the method claim 1 and is rejected under the same reasons set forth in connection of the rejection of claim 1, and Aiello further discloses:

-   a master device attached to a first bus having means for receiving a Software Beacon Alert (Aiello, Page 4, Paragraph [0052], "Master transceiver 12 and slave transceivers 14a through 14n include a transmitter or other means for transmitting data to the other transceivers of the network 10 via a corresponding antenna 18, 20a through 20n. Transceivers 12, 14a through 14n further include a receiver or other means for receiving data from the other transceivers via its corresponding antenna 18, 20a through 20n.").

-   means for communication with at least one wireless device, said Software Beacon Alert providing an indication of a time of a subsequent transmission; (Aiello, Page 2, Paragraph [0021], "In general, the network system comprises a plurality of node devices, wherein each node device is a transceiver. Each transceiver includes a transmitter or other means for transmitting data to the other transceivers as is known in the art. Each transceiver also includes a receiver or other means for receiving data from the other transceivers as is known in the art.").

-   at least one slave device that receives the filtered Software Beacon Alert message transmitted by the master device; said at least one slave device includes means for wireless communication with at least one wireless device, (Aiello, Page 6, Paragraphs [0064]-[0066], "A slave transceiver trying to achieve synchronization or "lock" with the master clock examines the incoming data stream to detect the master sync code, as described above."), Aiello teaches a slave transceiver receiving a master sync code, which contains a filtered software beacon alert.

Claim 7 is the system claim corresponding to the method claim 2 and is rejected under the same reasons set forth in connection of the rejection of claim 2.

Claim 8 is the system claim corresponding to the method claim 3 and is rejected under the same reasons set forth in connection of the rejection of claim 3.

As per claim 10, the rejection of claim 6 is incorporated and further Straub discloses:

-       *wherein the master device and the at least one slave device conform to the IEEE 1394 device timing standards, and said master device and said at least one slave device are connected to respective 1394 serial buses.* (Straub, Column 6, Line 64 – Column 7, Line 38).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the system of Aiello to have a master device and at least one slave device connected to IEEE 1394 serial buses. The modification would be obvious because one of ordinary skill in the art would want to create a system for synchronizing apparatuses connected to different buses. In using IEEE 1394 buses, provision is made to transmit the clock every 125 microseconds allowing for slave nodes to synchronize with the master node in a consistent manner. (Straub, Abstract and Column 7, Lines 8-29).

As per claim 11, the rejection of claim 10 is incorporated and further Straub discloses:
-       *a plurality of IEEE 1394 serial buses, with said master device being attached to a first of the plurality of IEEE serial buses and said slave device being attached a second of the plurality of IEEE 1394 buses.* (Straub, Abstract and Fig. 1, Column 3, Lines 41-43).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the method of Aiello to have a method of clock synchronization for nodes that are attached to different buses. The modification would be obvious because one of ordinary skill in the art would want to provide a means for synchronizing wireless devices in a communications network comprising multiple buses. (Straub, Abstract).

Claims 4, 9 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aiello et al (Aiello) (US Patent Publication No. 2002/0018458 A1) in

view of Straub et al (Straub) (US Patent No. 6,914,895 B1) and in further view of Shpak (US Patent Publication No. 2003/0207697 A1).

As per claim 4, the rejection of claim 1 is incorporated; however, neither Aiello nor Straub specifically disclose:

- ***wherein the messages transmitted and received between the wireless master device and the at least one slave device utilize an 802.11 WLAN network.*** However, Shpak in an analogous art discloses the above limitation. (Shpak, Abstract and Pages 2-3, Paragraph [0031]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shpak into the method of Aiello and Straub to way to transmit messages between the wireless master device and at least one slave device utilizing an 802.11 WLAN network. The modification would be obvious because one of ordinary skill in the art would want a method of over the air communication between wired and wireless networks. (Shpak, Abstract).

Claim 9 is the system claim corresponding to the method claim 4 and is rejected under the same reasons set forth in connection of the rejection of claim 4.

Claim 12 is the apparatus claim corresponding to the method claims 1-2, 4-5 and 10 and is rejected under the same reasons set forth in connection of the rejection of claims 1-2, 4-5 and 10, and Aiello further discloses:

- ***An apparatus for receiving a Software Beacon Alert from a wireless network and synchronizing a plurality of wireless nodes, said apparatus comprising:*** (Aiello, Page 7, Paragraph [0073]).
- ***means for synchronizing a Software Beacon Alert that indicates a subsequent transmission time including a phase-lock loop filter that is unsymmetrical about zero error, so that a phase detection gain is constant and relatively smaller when the Software Beacon Alert (SBA) is later than the***

indicated subsequent transmission time, and larger and proportional when the SBA is earlier than the indicated subsequent transmission time, said means for synchronizing providing a filtered Software Beacon Alert; (Aiello, Page 3, Paragraph [0026]), Aiello teaches a means for synchronizing a software beacon alert by applying the master sync – which contains a synchronizing beacon – to a phase lock loop mechanism associated with a master device.

As per claim 13, the rejection of claim 12 is incorporated and further Straub discloses:
-      *wherein the second phase-lock loop filter device limits an instantaneous change to +/- one clock cycle.* (Straub, Column 7, Lines 8-38).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the method of Aiello to have the change in cycle time limited to +/- one clock pulse per 1394 cycle. The modification would be obvious because one of ordinary skill in the art would want to allow slave nodes to synchronize their clock to the master node and perform any necessary corrections in a timely manner. (Straub, Column 7, Lines 8-38).

As per claim 14, the rejection of claim 12 is incorporated and further Aiello discloses:
-      *wherein the second-phase lock loop filter device distributes the instantaneous change over a plurality of cycles.* (Aiello, Page 6, Paragraphs [0064] and [0068]-[0070], "As described in further detail below, a transmitter will be assigned a data "slot" within a frame to transmit to another device. The phase offset detector 54 carries out the operation of ascertaining the phase delay between the expected zero-delay pulse location, and the actual position of the incoming pulses. Typically, a known training bit pattern is transmitted before the data is transmitted. The phase offset detector 54 in the receiving device detects or otherwise ascertains the training bit pattern and determines the phase offset of the incoming pulse from the internal clock. The phase determined is then communicated to the Data Recovery Unit 56.").

As per claim 15, the rejection of claim 12 is incorporated and further Aiello discloses:

- ***comprising at least an additional second phase-lock loop device so that each respective slave device has a respective second phase-lock loop device.*** (Aiello, FIG. 3b and Page 6, Paragraphs [0065]-[0066]).

Claim 16 is the apparatus claim corresponding to the method claim 4 and is rejected under the same reasons set forth in connection of the rejection of claim 4.

As per claim 17, the rejection of claim 12 is incorporated and further Straub discloses:

- ***wherein the master device and the at least one slave device comprise computers having 1394 adapter cards to communicate with a 1394 serial bus,*** (Straub, Column 8, Lines 5-35 and Column 8, Line 60 - Column 9, Line 9).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Straub into the method of Aiello and Shpak to have the master and slave devices contain 1394 adapter cards. The modification would be obvious because one of ordinary skill in the art would want a way to connect to the 1394 bus. (Straub, Column 8, Lines 5-35).

Neither Aiello nor Straub specifically disclose:

- ***and 802.11 adapter cards for wireless transmission with 802.11 devices.*** However, Shpak in an analogous art discloses the above limitation. (Shpak, Page 3, Paragraph [0033] and Page 4, Paragraph [0044]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Shpak into the method of Aiello and Straub to have the master and slave devices contain 802.11 adapter cards. The modification would be obvious because one of ordinary skill in the art would want a way

to connect to the wireless network for shared communication. (Shpak, Page 3, Paragraph [0033]).

9.   The prior art not relied upon but considered pertinent to applicant's disclosure is made of record and listed on form PTO-892.

        Any inquiry concerning this communication or earlier communications from the examiner should be directed to TANGELA T. CHAMBERS whose telephone number is 571-270-3168. The examiner can normally be reached Monday through Thursday, 8:30am-6pm Eastern Time.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chameli Das, can be reached at 571-270-1392. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tangela T. Chambers

Patent Examiner

Art Unit 4141

March 12, 2008

/CHAMELI C. DAS/

Supervisory Patent Examiner, Art Unit 4141